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package j2;
import java.util.ArrayList;
import java.util.List;

public class ShopSalesManagement {

    public static void main(String[] args) {
        Inventory inventory = new Inventory();
        inventory.addProduct(new Product("Laptop", 1000.0, 10));
        inventory.addProduct(new Product("Smartphone", 500.0, 20));
        inventory.addProduct(new Product("Tablet", 300.0, 15));

        SalesManager salesManager = new SalesManager(inventory);

        inventory.displayInventory();

        salesManager.makeSale("Laptop", 2);
        salesManager.makeSale("Smartphone", 5);

        salesManager.generateSalesReport();
        inventory.displayInventory();
    }
}

class SalesManager {
    private Inventory inventory;
    private List<Sale> sales;

    public SalesManager(Inventory inventory) {
        this.inventory = inventory;
        sales = new ArrayList<>();
    }

    public void makeSale(String productName, int quantity) {
        Product product = inventory.findProductByName(productName);
        if (product != null && product.getQuantity() >= quantity) {
            sales.add(new Sale(product, quantity));
            product.setQuantity(product.getQuantity() - quantity);
            System.out.println("Sale successful!");
        } else {
            System.out.println("Sale failed. Product not available or insufficient quantity.");
        }
    }
}

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    public void generateSalesReport() {
        double totalSales = 0;
        for (Sale sale : sales) {
            totalSales += sale.getTotalPrice();
        }
        System.out.println("Total Sales: " + totalSales);
    }
}

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class Sale {
    private Product product;
    private int quantity;

    public Sale(Product product, int quantity) {
        this.product = product;
        this.quantity = quantity;
    }

    public double getTotalPrice() {
        return product.getPrice() * quantity;
    }
}

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```

class Inventory {
    private List<Product> products;

    public Inventory() {
        products = new ArrayList<>();
    }

    public void addProduct(Product product) {
        products.add(product);
    }

    public Product findProductByName(String name) {
        for (Product product : products) {
            if (product.getName().equalsIgnoreCase(name)) {
                return product;
            }
        }
        return null;
    }

    public void displayInventory() {

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        for (Product product : products) {  
            System.out.println(product.getName() + " - " + product.getPrice() + " - " +  
product.getQuantity());  
        }  
    }  
}
```

```
class Product {  
    private String name;  
    private double price;  
    private int quantity;  
  
    public Product(String name, double price, int quantity) {  
        this.name = name;  
        this.price = price;  
        this.quantity = quantity;  
    }  
  
    public String getName() {  
        return name;  
    }  
  
    public double getPrice() {  
        return price;  
    }  
  
    public int getQuantity() {  
        return quantity;  
    }  
  
    public void setQuantity(int quantity) {  
        this.quantity = quantity;  
    }  
}
```